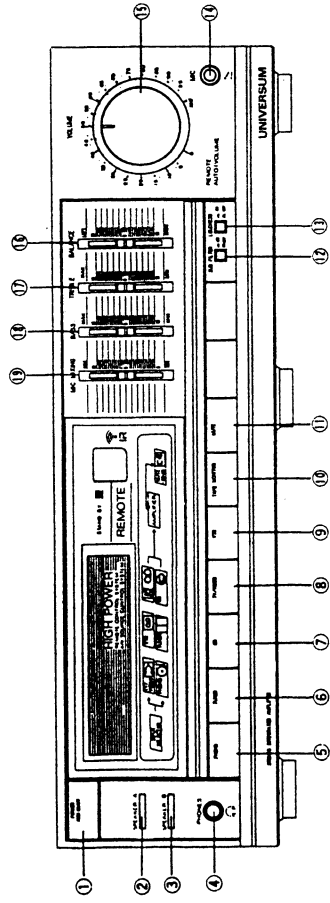
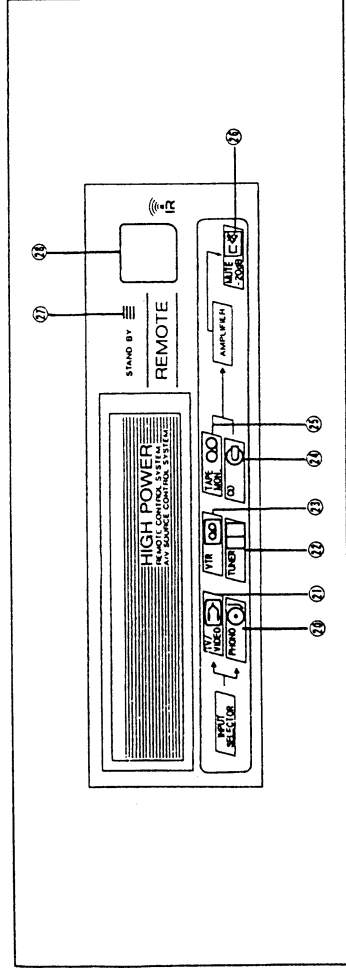


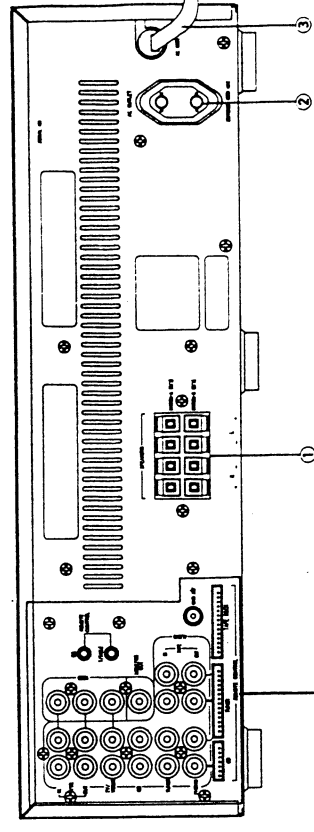
BESTELL-NR.	0656801
GERAETEBEZEICHNUNG	UNIV.-VERSTAERKER
WARENGATTUNG	653
AUSFUEHRUNGS-NR.	001
GERAETEBESCHREIBUNG	
PRIVILEG	V 4695
LIEFERANTEN-NR.	205476
PREIS	549.00
KATALOG	894
GARANTIEZEIT	6
KD-SEKTOR	R
HEIM/BRINGE	WERKSTATT
BETREUUNG	EIGEN
KOSTENTRAEGER	EIGEN
REPARATURFAEHIG	JA



1. POWER SWITCH
2. A SPEAKER SELECTOR SWITCH
3. B SPEAKER SELECTOR SWITCH
4. HEADPHONE JACK
5. PHONO BUTTON
6. TUNER BUTTON
7. CD BUTTON
8. TV/VIDEO BUTTON
9. VTR BUTTON
10. TAPE BUTTON
11. MUTE BUTTON
12. SUB-SONIC FILTER SWITCH
13. LOUDNESS SWITCH
14. MIC JACK



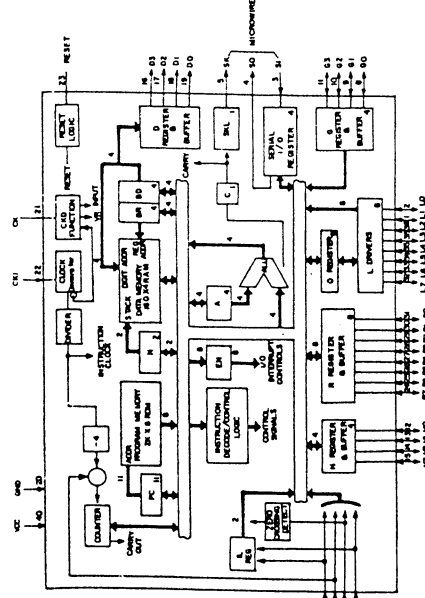
15. VOLUME
16. BALANCE
17. TREBLE
18. BASS
19. MIC MIXING VOLUME
20. PHONO INDICATOR
21. TV/VIDEO INDICATOR
22. TUNER INDICATOR
23. VTR INDICATOR
24. CD INDICATOR
25. TAPE INDICATOR
26. MUTE INDICATOR
27. STAND-BY INDICATOR
28. REMOTE CONTROL SENSOR



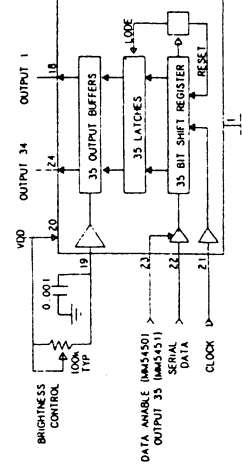
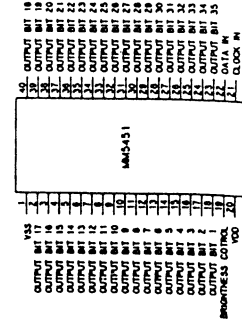
1. SPEAKER TERMINAL
2. AC OUTLET
3. AC POWER CORD
4. PHONO INPUT JACK
5. TUNER INPUT JACK
6. CD INPUT JACK
7. TV/VIDEO INPUT JACK
8. VTR INPUT JACK
9. VTR INPUT JACK
10. TAPE INPUT JACK
11. TAPE OUTPUT JACK
12. VTR VIDEO INPUT JACK
13. VTR VIDEO OUTPUT JACK
14. TV/VIDEO VIDEO OUTPUT JACK
15. MONITOR OUTPUT JACK
16. EQ REMOCON JACK
17. T/TABLE REMOCON JACK
18. CD REMOCON JACK
19. TUNER REMOCON JACK
20. TAPE DECK REMOCON JACK
21. GROUND TO TURN TABLE

1) IC CONFIGURATIONS

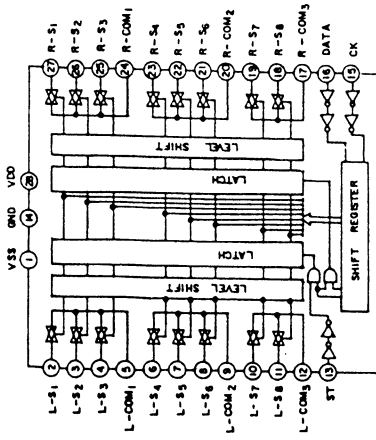
COP440-WZF/N (IC-MICOM)



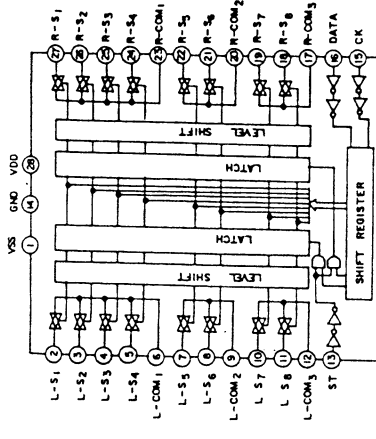
MM5451N (REMOCON DRIVER)



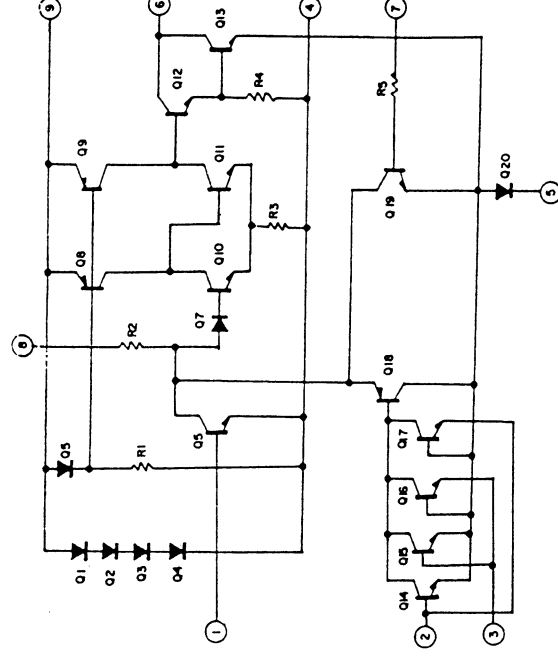
TC9163N



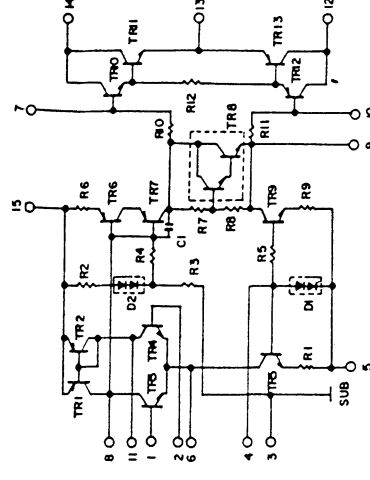
TC9164N

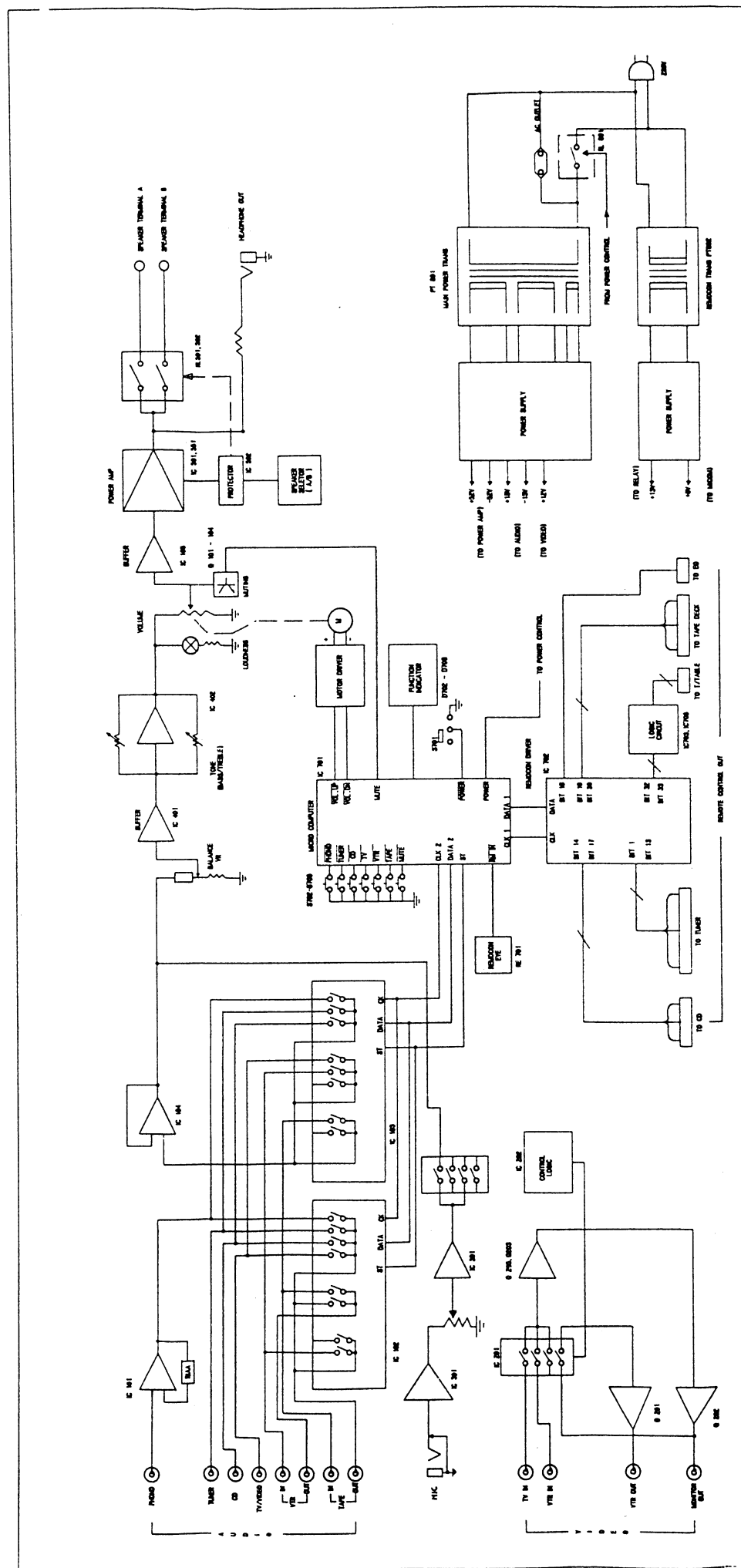


TA7317P

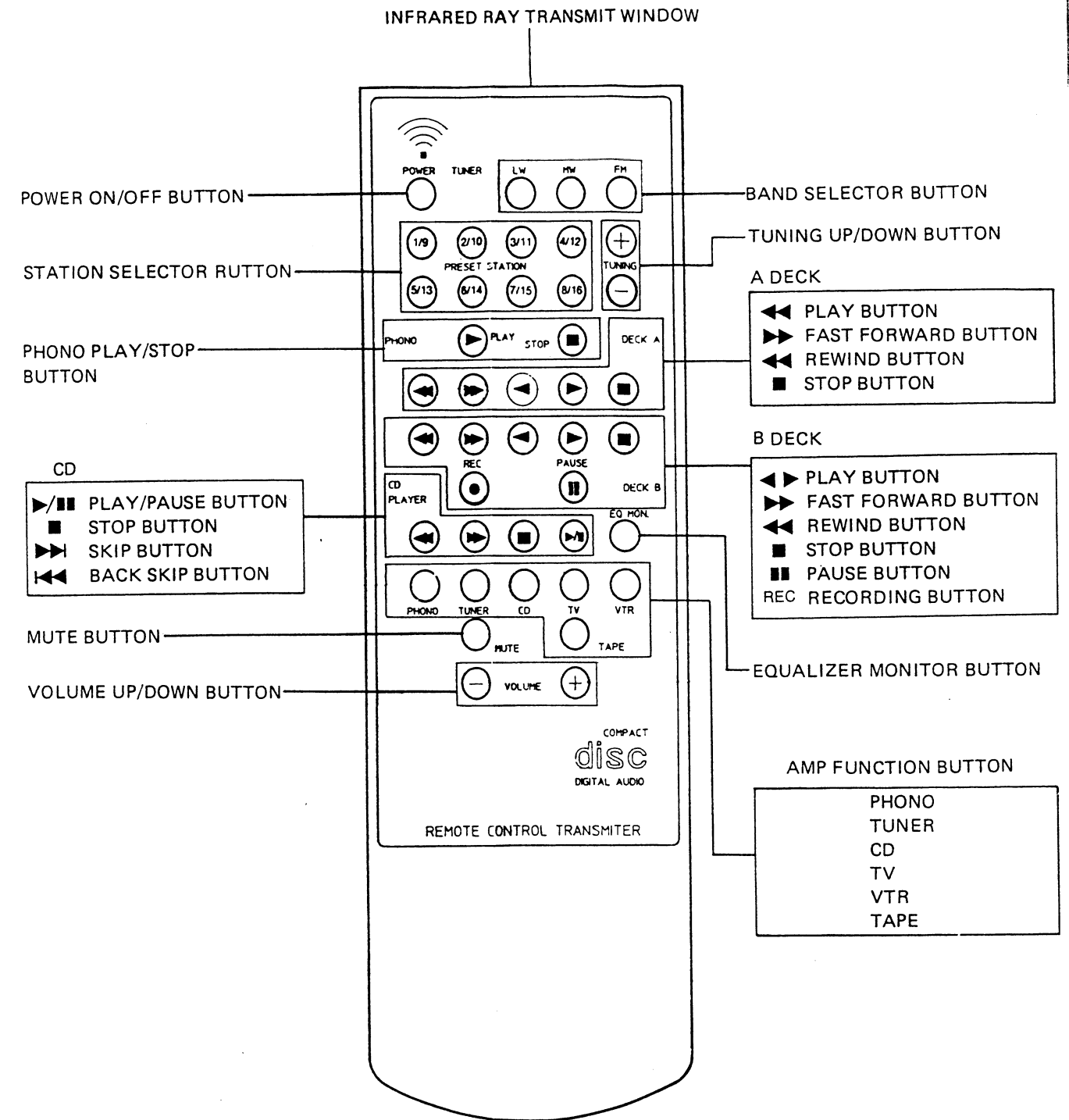


STK4044XI

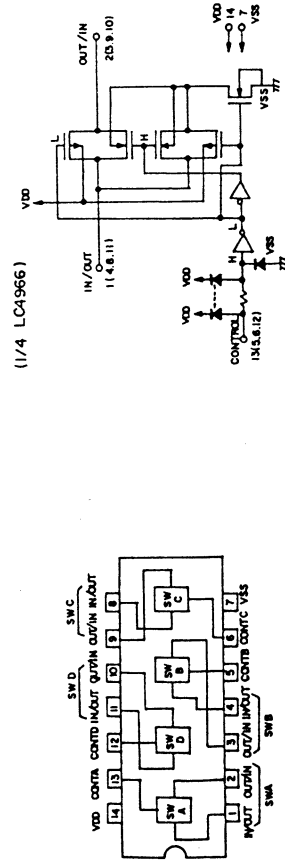




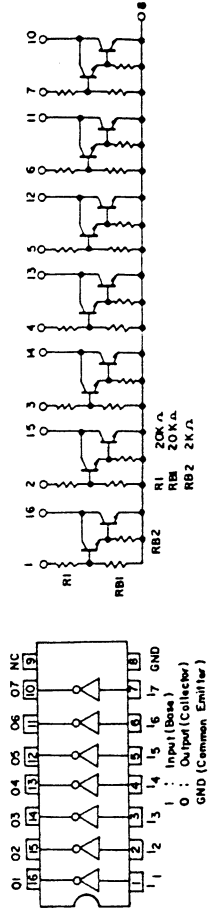
REMOTE CONTROL



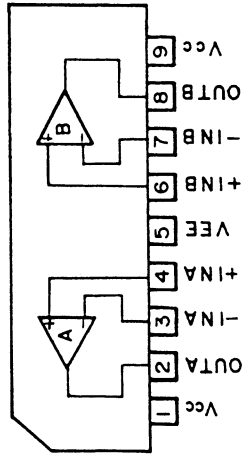
LC4966



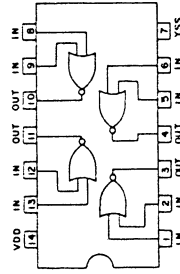
UPA81C



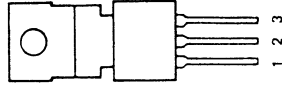
NJM2068 SD



LC4001B



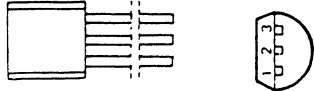
KSC 1096-Y



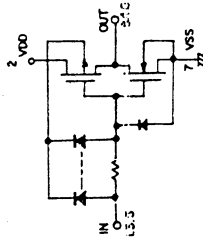
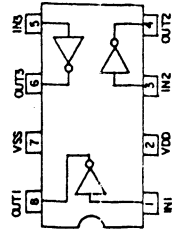
KSA 733-Y/KSC945-Y
/KSC 1008-Y



2SC 2458-Y



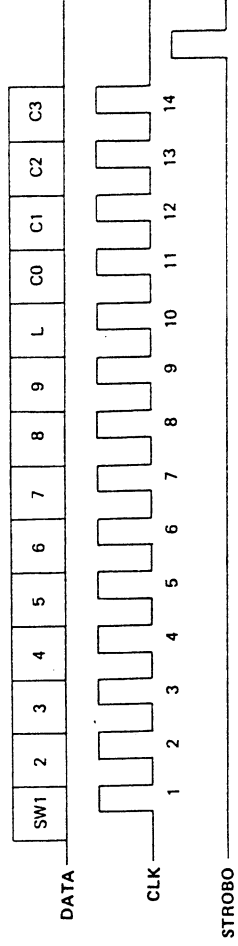
LC4969



- COP 440-WZF/N (single-chip N-CHANNEL Microcontrollers)
COP 440-WZF/N is 2K x 8 ROM AND EMPLOY 160 x 4 RAM.

- ANALOG SWITCH IC (IC 102/103, TC9164N/9163N)

(1) TIME CHART



- TC9164N's and TC9163N's data are consist of 14 Bits.
First 8 Bits (1 – 8) match with analog SW's (1 – 8) and port is "H"
in ON condition.
Next 2 Bits (9 – 10) are for L/R-CH selection.
Last 4 Bits (11 – 14) are code Bits for selecting chip.

	C0	C1	C2	C3
TC9163N	H	L	L	L
TC9164N	L	H	L	L

(2) IC 102 (TC9164N) DATA

DATE	S1	S2	S3	S4	S5	S6	S7	S8	R	L	C0	C1	C2	C3
FUNCTION	D0	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13
PHONO	H	L	L	L	L	H	L	L	H	H	L	H	L	L
TUNER	L	H	L	L	L	H	L	L	H	H	L	H	L	L
CD	L	L	H	L	L	H	L	L	H	H	L	H	L	L
TV/VTR	L	L	L	L	L	H	L	L	H	H	L	H	L	L
VTR	L	L	L	L	L	L	L	L	H	H	L	H	L	L
PHONO + TAPE	H	L	L	L	L	H	L	L	H	H	L	H	L	L
TUNER + TAPE	L	H	L	L	L	H	L	L	H	H	L	H	L	L
CD + TAPE	L	L	H	L	L	H	L	L	H	H	L	H	L	L
TV + TAPE	L	L	L	H	L	L	L	L	H	H	L	H	L	L
VTR + TAPE	L	L	L	L	L	L	L	L	H	H	L	H	L	L

- PIN is "H", if Function is selected (PIN 12, 13, 24, 25, 26, 27, 28, 29)
- PIN28: FOR TUNER LED DRIVE (OUTPUT)
- PIN29: FOR PHONO LED DRIVE (OUTPUT)

(3) IC 103 (TC9183N) DATA

DATA FUNCTION	S1	S2	S3	S4	S5	D6	S7	S8	R	L	C0	C1	C2	C3
	D0	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13
PHONO	H	L	L	L	L	L	L	L	H	H	H	L	L	L
TUNER	L	H	L	L	L	L	L	L	H	H	H	L	L	L
CD	L	L	H	L	L	L	L	L	H	H	H	L	L	L
TV/VTR	L	L	L	H	L	L	L	L	H	H	H	L	L	L
VTR	L	L	L	L	H	L	L	L	H	H	H	L	L	L
PHONO + TAPE	L	L	L	L	L	L	H	L	H	H	H	L	L	L
TUNER + TAPE	L	L	L	L	L	L	L	H	H	H	H	L	L	L
CD + TAPE	L	L	L	L	L	L	L	H	H	H	H	L	L	L
TV + TAPE	L	L	L	L	L	L	L	H	H	H	H	L	L	L
VTR + TAPE	L	L	L	L	L	L	L	H	H	H	H	L	L	L

(4) MICOM IC 701's TIME CHART

TC 9184N DATA TC 9183N DATA

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

DATA2

CLK2

ST

This timing chart shows MICOM IC's out put (DATA2, CLK2, ST) in CASE of selecting PHONO function.

STK4044 X 1 (IC501, IC551)

IC	PIN	1	2	3	4	5	6	7	8	9	10
IC 501		-0.2	-0.2	0	-54.0	-54.0	-0.8	1.2	54.5	-1.2	-1.2
IC 551		-0.2	-0.2	0	-54.0	-54.0	-0.8	1.2	54.5	-1.2	-1.2
IC	PIN	11	12	13	14	15					
IC 501		55.0	-56.5	0	56.7	55.5					
IC 551		55.0	-56.5	0	56.7	55.5					

COP440-WZF/N (IC701)

IC	PIN	1	2	3	4	5	6	7	8	9	10
IC 701		5.0	5.0	5.0	0	0	5.0	5.0	0	0	0
IC	PIN	11	12	13	14	15	16	17	18	19	20
IC 701		0	0	0	0	0	0	0	0	4.8	0
IC	PIN	21	22	23	24	25	26	27	28	29	30
IC 701		1.3	1.5	5.0	0	0	0	0	0	2.3	2.3
IC	PIN	31	32	33	34	35	36	37	38	39	40
IC 701		2.3	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0

MM5451N (IC702)

IC	PIN	1	2	3	4	5	6	7	8	9	10
IC 702		0	0	0	0	0	5.0	5.0	5.0	5.0	5.0
IC	PIN	11	12	13	14	15	16	17	18	19	20
IC 702		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	3.3	5.0
IC	PIN	21	22	23	24	25	26	27	28	29	30
IC 702		0	0	0	0	5.0	5.0	0	0	0	0
IC	PIN	31	32	33	34	35	36	37	38	39	40
IC 702		0	0	0	0	0	0	0	0	0	0

NJM2068SD (IC101, 104, 105, 301, 401) NJM4560S (IC402)

IC	PIN	1	2	3	4	5	6	7	8	9
IC101		15.1	0	0	0	-15.2	0	0	0	15.1
IC104		15.1	0	0	0	-15.2	0	0	0	15.1
IC105		15.1	0	0	0	-15.2	0	0	0	15.1
IC301		15.1	0	0	0	-15.2	0	0	0	15.1
IC401		15.1	0	0	0	-15.2	0	0	0	15.1
IC402		15.1	0	0	0	-15.2	0	0	0	15.1

TC9184N(IC102) TC9183N(IC103)

IC	PIN	1	2	3	4	5	6	7	8	9	10	11	12	13	14
IC102		-15.2	0	0	0	0	0	0	0	0	0	0	0	0	0
IC103		-15.2	0	0	0	0	0	0	0	0	0	0	0	0	0
IC	PIN	15	16	17	18	19	20	21	22	23	24	25	26	27	28
IC102		0	0	0	0	0	0	0	0	0	0	0	0	0	15.1
IC103		0	0	0	0	0	0	0	0	0	0	0	0	0	15.1

LC4966(IC 201)

IC	PIN	1	2	3	4	4	6	7	8	9	10	11	12	13	14
IC201		6	7.5	8.4	8.4	11.8	0.5	0	5.9	7.5	7.5	6	0.5	0.5	12
IC302		0	0.2	0.2	0	-15.1	-15.1	-15.1	0	0	0	0	-15.1	-15.1	15.1

μPA81C (IC202)

IC	PIN	1	2	3	4	5	6	7	8	9	10	11	12	13	14
IC202		0	4.3	4.3	4.3	4.3	0	0	0	0	7.5	7.5	0.5	0.5	0

LC4001B (IC703)

IC	PIN	1	2	3	4	5	6	7	8	9	10	11	12	13	14
IC703		0	0	4.6	0	5.0	0	0	5.0	4.8	5.0	0	5.0	0	0

LC4969(IC706)

IC	PIN	1	2	3	4	5	6	7	8
IC706		0.1	5.0	0	5.0	4.0	0	0	5.0

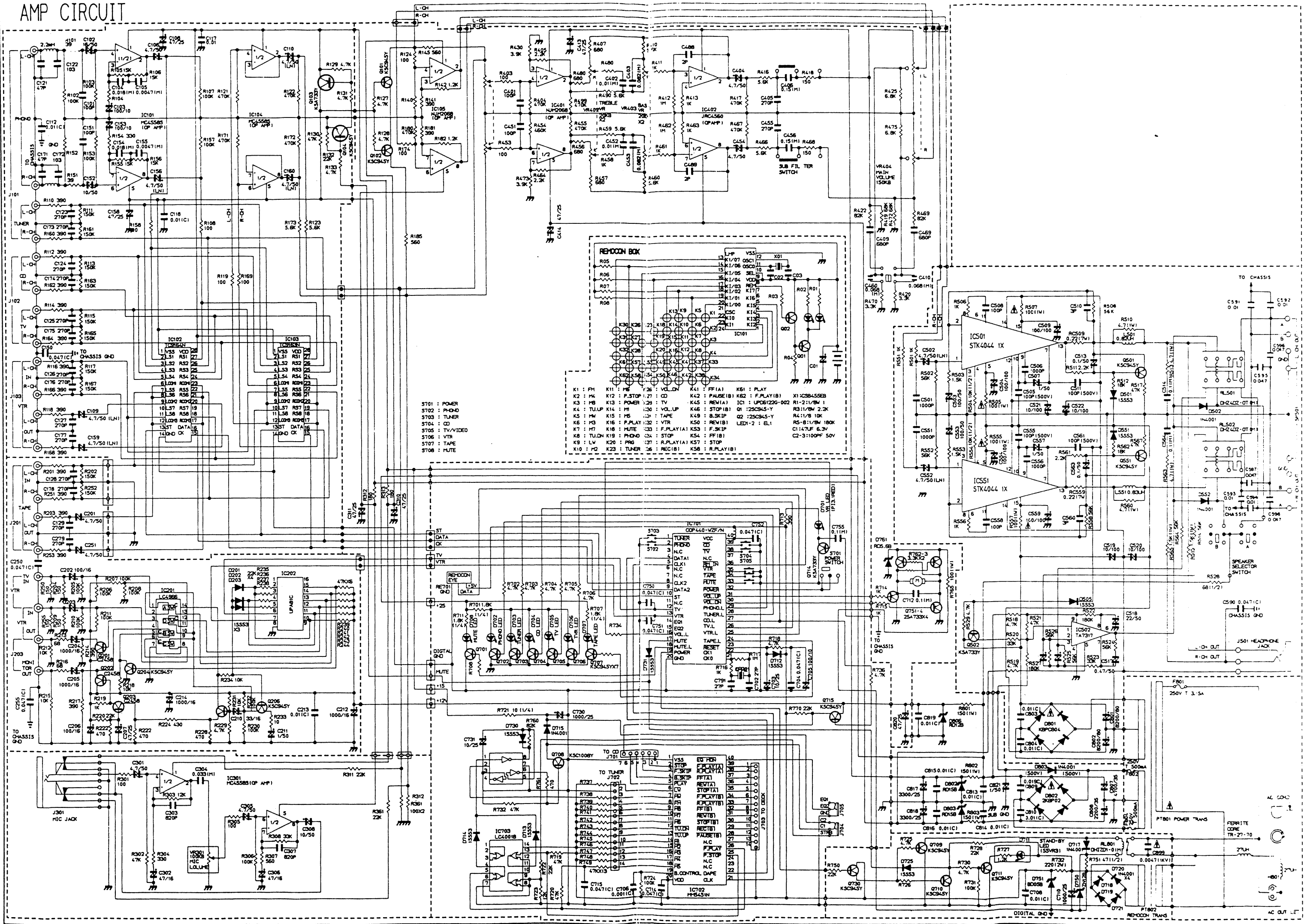
TA7317P(IC502)

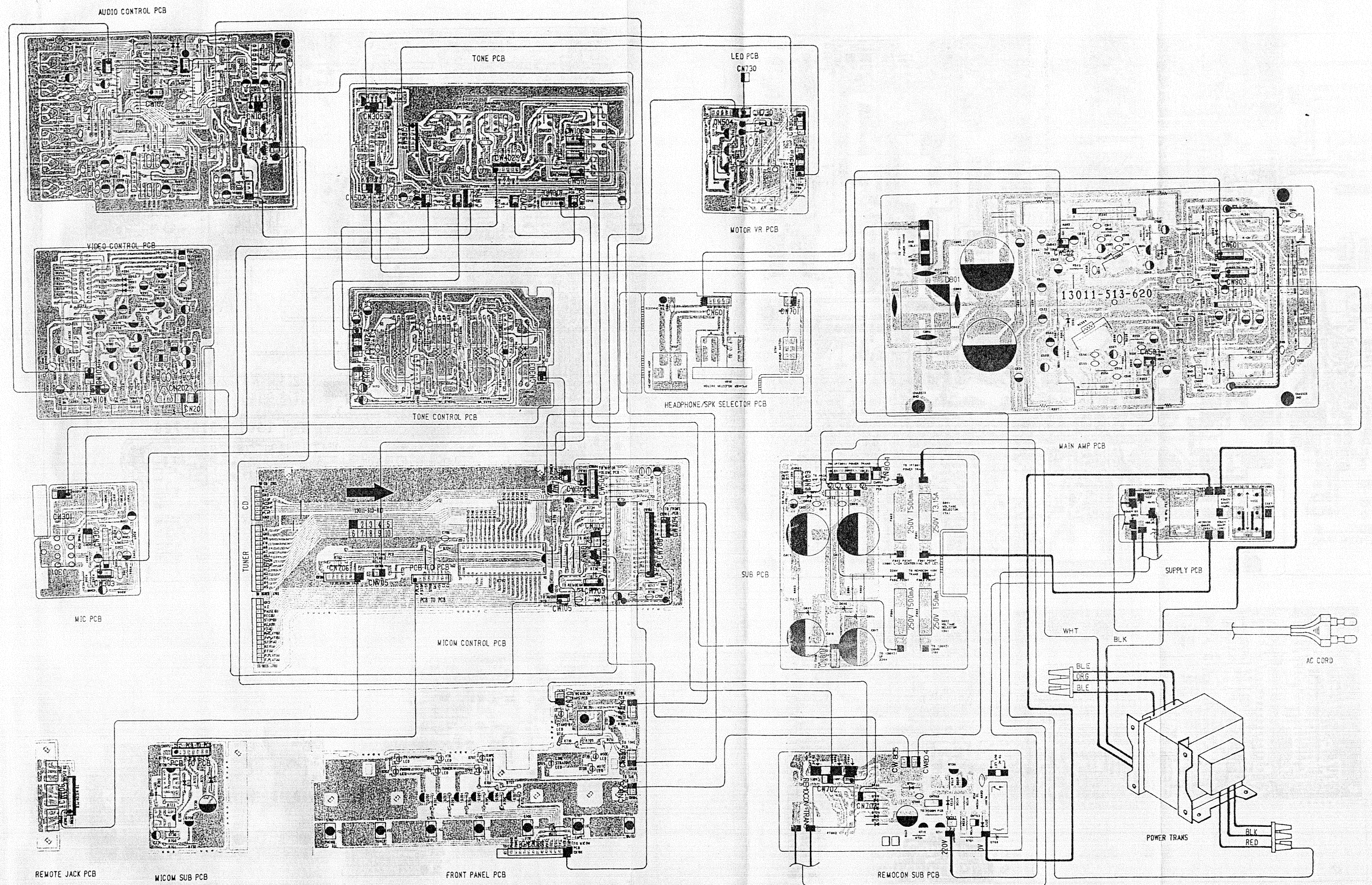
IC	PIN	1	2	3	4	5	6	7	8	9
IC502		-0.7	0	0	0	-0.8	0	0	1.4	3.1

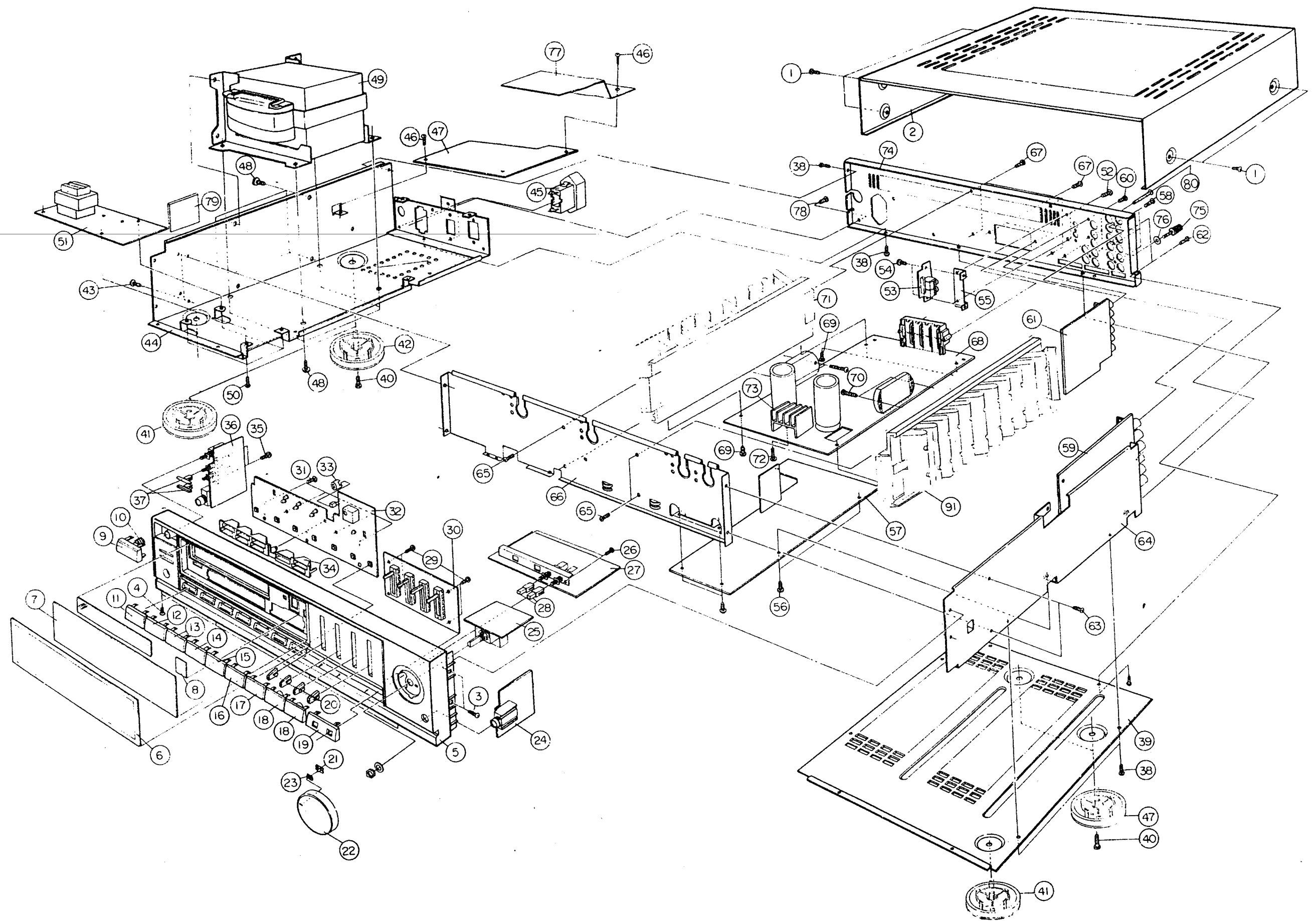
KSC945-Y (Q101, 102, 104, 204, 206, 501, 551, 701, 702, 703, 704, 705, 706, 707, 709, 710, 711, 713, 715, 730)
KSA733-Y (Q103, 502) 2SC2458-Y (Q201, 202, 203, 205) KSC1008-Y (Q708)

IC	PIN	E	B	C	PIN	E	B	C	PIN	E	B	C
Q101		0	-8.0	0	Q204	0	0.5	11.8	Q702	0	0.7	0.1
Q102		0	-8.0	0	Q205	1.4	2.0	12.1	Q703	0	0	1.7
Q103		15.1	15.1	-8.4	Q206	7.5	8.0	7.5	Q704	0	0	1.7
Q104		0	0	15.1	Q501	0	0	56.5	Q705	0	0	1.7
Q201		7.7	8.4	12.1	Q502	57.2	57.2	-0.7	Q706	0	0	1.7
Q202		8.4	9.1	12.1	Q551	0	0	56.5	Q707	0	0	1.7
Q203		1.4	2.0	9.1	Q701	0	0	23.0	Q708	0	0	0.1

AMP CIRCUIT







1		NF-VERB.KABEL 2X CINCH JE SEITE	997 609 3
2		NF-KABEL 2X3,5 KLINKEST. MONO	947 423 0
3	FB-EQ	STEUERKABEL 14-PIN	741 912 0
4	FB-TB,TUN.	STEUERKABEL,CD-7-PIN	741 913 8
5	FB-CD		

6

7

GEHAEUSE UND BEDIENTEILE :

8		GEHAEUSE-OBERTEIL	744 830 1
9	2	FRONT-BLENDE	744 835 0
10	5	FRONT-SCHEIBE	744 847 5
11	6	SCHEIBE MIT SCHRIFT	744 885 5
12	7		
13	8	FILTER-SCHEIBE	744 848 3
14	9	KNOPF,POWER	744 846 7
15	10	FEDER	741 893 2
16	11	KNOPF,PHONO	744 837 6
17	12	KNOPF,TUNER	744 838 4
18	13	KNOPF,CD	744 839 2
19	14	KNOPF,TV-VIDEO	744 840 0
20	15	KNOPF,VTR	744 841 8
21	16	KNOPF,TAPE	744 842 6
22	17	KNOPF,MUTE	744 843 4
23	18	KNOPF,BLIND	744 845 9
24	19	KNOPF,BLIND	744 832 7
25	20	KNOPF,SCHIEBEREGLER	744 831 9
26	22	KNOPF,VOLUME	744 849 1
27	23	ZIERPLATTE,VOLUME	744 850 9
28	28	KNOPF,MODE	744 844 2
29	37	KNOPF,SPEAKER	744 836 8
30	41	FUSS,VORN	744 824 4
31	42,47	FUSS,HINTEN	744 825 1
32	45	NETZBUCHSE	741 831 7
33	49	NETZTRAFO,GROSS	744 833 5
34	51	STANDBY-NETZTRAFO,KLEIN	744 834 3

35

36

FERNBEDIENUNG :

37		FERNBEDIENUNG,GEBER	744 883 0
38		BATTERIEFACHDECKEL FUER FB	744 887 1
39		IC UPD 6122 G-002	744 894 8
40	IC01	LEUCHTDIODE LN 66 R	728 075 3
41	LED1,2		
42	LED3	LED SLP 144 B	744 886 3
43	Q01	TRANSISTOR BC 337 16	175 716 0
44	Q02	TRANSISTOR 2 SC 2021 R	950 535 5
45	X01	KERAMIK-FILTER CSB 455E	741 884 1

46

47

ELEKTRISCHE TEILE :

48		DROSSEL 27 UH	741 873 4
49	H801	DROSSEL 2R2 UH	741 874 2
50	FM-EING.	ELKO 8200 UF/80V	744 858 2
51	C801,802	ELKO 2200 UF/25V	744 857 4
52	C807,808		
53	C817,818	ELKO 3300 UF/35V	744 856 6
54	CF701	QUARZ 4.0 MHZ	727 532 4
55	D201-551	DIODE 1 N 4148	175 540 4
56	D701	LED SLR 34 VR3	744 869 9
57	D702-703	LED SLV 31 DC3	744 868 1
58	D710	LED SLV 31 MC3	744 867 3
59	D711	LED SLB-55VR3 (ROT)	740 351 2
60	D712-714	DIODE 1 N 4148	175 540 4
61	D716	Z-DIODE RD 4,7	921 586 4
62	D725-731	DIODE 1 N 4148	175 540 4
63	D750,804	ZENERDIODE RD 12 EB	921 587 2
64	D761	Z-DIODE RD 5,6 EB1	955 944 2
65	D801	GLEICHRICHTER KBPC 804 8A,400V	741 866 8
66	D802	GLEICHRICHTER 2 KBP2	730 984 2
67	D805,806	ZENERDIODE ZD 15	175 643 6
68	IC101,401	IC NJM 2068 SD	740 010 4
69	IC102	IC TC 9164 N	744 863 2
70	IC103	IC TC 9163 N	744 862 4
71	IC104,105	IC NJM 2068 SD	740 010 4
72	IC201	IC LC 4966	741 864 3
73	IC202	IC UPA 81 C	744 864 0
74	IC402	IC NJM 4560 S	730 458 7
75	IC501,551	IC STK 4044 XI	744 865 7
76	IC502	IC TA 7317 P	949 182 0
77	IC701	IC COP 440-WZF/N	744 859 0
78	IC702	IC MM 5451-N	744 861 6
79	IC703	IC LC 4001 B	730 335 7
80	IC705	IC BA 6209	989 543 4
81	IC706	IC LC 4969	744 860 8
82	J101-201	CINCHBUCHSE 4-POL	741 880 9

ZEILE	POSITION	SYM BEZEICHNUNG	ET-NUMMER
83	J202,203	CINCHBUCHSE 2-POL	744 875 6
84	J301,MIC	KLINKENBUCHSE 6.3 MM STEREO	744 873 1
85	J501,KH	KLINKENBUCHSE 6.3 MM STEREO	744 874 9
86	J701	ANSCHLUSSBUCHSE 7-PIN	741 871 8
87	J702,703	ANSCHLUSSBUCHSE 14-PIN	741 911 2
88	J704,705	KLINKENBUCHSE	744 872 3
89	L501,551	DRGSSEL 0.82 UH	744 870 7
90	L701	SPULE 470 UH	741 939 8
91	PT801	NETZTRAFO,GROSS	744 833 5
92	PT802	STANDBY-NETZTRAFO,KLEIN	744 834 3
93	Q101,102,4	TRANSISTOR 2 SC 945	175 739 2
94	Q103,502	TRANSISTOR 2 SA 733 P	275 032 1
95	Q201-203	TRANSISTOR 2 SC 3199 (GR)	989 833 9
96	Q204,206	TRANSISTOR 2 SC 945	175 739 2
97	Q205	TRANSISTOR 2 SC 3199 (GR)	989 833 9
98	Q501,551	TRANSISTOR 2 SC 945	175 739 2
99	Q701-707	TRANSISTOR 2 SC 945	175 739 2
100	Q708	TRANSISTOR KSC 1008	744 882 2
101	Q709-711	TRANSISTOR 2 SC 945	175 739 2
102	Q714	TRANSISTOR 2 SA 733 P	275 032 1
103	Q715,730	TRANSISTOR 2 SC 945	175 739 2
104	Q751-754	TRANSISTOR 2 SC 945	175 739 2
105	RC509,559	WIDERSTAND 0.22 OHM 7 WATT	744 851 7
106	RE701	JR-EMPFAENGER	744 866 5
107	RL501,502	RELEY DE24D2	744 881 4
108	RL801	RELEY DH12D1	744 830 6
109	S401,MODE	DRUCKSCHALTER	744 878 0
110	S501,SPEAK	DRUCKSCHALTER	744 877 2
111	S701,POWER	TASTSCHALTER	744 876 4
112	S702-708	TASTSCHALTER	744 879 8
113	SP501	LAUTSPRECHERBUCHSENLEISTE	744 871 5
114	VR301,MIC	SCHIEBEREGLER 100KB	744 855 8
115	VR401,BAL	SCHIEBEREGLER 100KMN	744 853 3
116	VR402,403	SCHIEBEREGLER 2X20KB	744 854 1
117	VR404,LAUT	DREPOTI 2X150KB MIT MOTOR	744 852 5

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